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EXAMINER

FRANK, ELLIOT L

ART UNIT	PAPER NUMBER
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2125

DATE MAILED: 10/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N .

10/085,439

Applicant(s)

ERYUREK ET AL.

Examiner

Elliot L Frank

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 February 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-74 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-38, 42-51, 53 and 55-74 is/are rejected.
- 7) ☒ Claim(s) 39-41, 52 and 54 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5-8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Specification*

- ✓ 1. The abstract of the disclosure is objected to because it is too long. The abstract should be a narrative description of the invention 50-150 words in length omitting the purported merits of the invention. Correction is required. See MPEP § 608.01(b).

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

✓ The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- ✓ 3. Claim 38 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim includes mathematical limitations that are not clearly defined to allow someone of ordinary skill in the art to recreate the described mathematical relationship. This claim has not been examined on its merits in its current form. It is suggested that the actual equation be included within the claim to clarify the requirement.

### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

5. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).
6. Claim 1-10,19-22,42,43,49,50,51,53,55-60 and 62 are rejected under 35 U.S.C. 102(e) as being anticipated by Pyotsia et al. (USPN 6,317,701 B1).

The limitations of the aforementioned claims, and the relevant limitations in Pyotsia et al., are as follows:

1. A method of monitoring an entity within a process plant (column 1, lines 4-5) comprising:

- collecting data pertaining to the operation of the entity while the entity is in operation (column 4, lines 36-55);

- transmitting the collected data to an index computation device (column 6, lines 26-38);

- creating a use index from the collected data, wherein the use index represents status information regarding the entity (column 6, lines 1-25); and

- storing the use index in a database (column 5, lines 50-67).

Method claim 50 has the same functional limitations as claim 1 in a plural form. System claim 62 has the same functional limitations as claim 1. These claims are therefore anticipated by the same citations in Pyotsia et al.

2. The method of claim 1, wherein the collected data includes maintenance and process data (column 6, lines 1-8).

3. The method of claim 1, wherein the collected data includes diagnostic data pertaining to the entity (column 6, lines 19-26).

4. The method of claim 1, wherein the collected data includes on-line monitoring data pertaining to the entity (column 6, lines 39-51).

5. The method of claim 1, wherein the process plant includes a process control system having a control strategy, the method further comprising the steps of: providing the use index to the process control system; and changing the control strategy based on the use index (column 3, lines 20-36).

6. The method of claim 1, further comprising the steps of: providing the use index to a process control application; and changing a process control parameter based on the use index (column 3, lines 20-36).

7. The method of claim 1, wherein the process plant includes a maintenance system having a maintenance function, the method further comprising the steps of: providing the use index to the maintenance system; and changing the maintenance function based on the use index (column 3, lines 20-36).

8. The method of claim 1, further comprising the step of executing a decision within the process plant based on the use index (column 3, lines 20-36).

9. The method of claim 8, wherein the step of executing a decision comprises analyzing the entity (column 6, lines 52-64).

10. The method of claim 8, wherein the step of executing a decision comprises analyzing an aspect of the process plant other than the entity (column 2, lines 43-55).

19. The method of claim 1, wherein the use index is a performance index indicating the relative performance of the entity (column 6, lines 9-17).

20. The method of claim 1, wherein the use index is a variability index indicating an amount of deviation of a parameter of the entity (column 6, lines 39-51 wherein "error" is recited).

21. The method of claim 1, wherein the use index is a utilization index indicating a degree of exploitation of the entity (column 6, lines 39-51 wherein "odometer" is recited).

22. The method of claim 1, wherein the use index is a health index indicating the health of the entity (column 6, lines 19-26).

42. The method of claim 1, wherein the entity includes a plurality of lower level entities, the method further comprising the steps of: creating a lower level model for at least one of the lower level entities; and simulating the operation of the at least one lower level entity based on the lower level model to provide data pertaining to the operation of the at least one lower level entity (column 2, line 65-column 3, line 13).

43. The method of claim 42, further comprising the step of creating a lower level use index for each of the plurality of lower level entities based on the data pertaining to the operation of the at least one lower level entity, and wherein the step of creating a use index for the entity comprises combining the lower level use indices (column 2, line 65-column 3, line 13).

49. The method of claim 45, wherein the device is one of a two-wire device, a three-wire device, a four-wire device, a wireless device, a device having a processor, a variable speed driver, a controller, a multiplexer, rotating equipment, an actuator, power generation equipment, power distribution equipment, a transmitter, a sensor, a control system, a transceiver, a valve, a positioner, a switch, electrical equipment, a server, a hand held device, a pump, an I/O system, a smart field device, a non-smart field device, a HART protocol device, a Fieldbus protocol device, a PROFIBUS protocol device, a WORLDFIP protocol device, a Device-Net protocol device, a AS-Interface protocol device, a CAN protocol device, a TCP/IP protocol device, an Ethernet device, an internet-based device, and a network communication device (column 4, lines 1-35).

51. The method of claim 50, wherein the plurality of entities together comprise a higher level entity, the method further comprising the step of combining the use indices of the plurality of entities to provide a higher level use index for the higher level entity (column 2, line 65-column 3, line 13).

53. The method of claim 50, wherein at least one of the plurality of entities includes a plurality of lower level entities, the step of collecting data includes

collecting data pertaining to the operation of each of the plurality of lower level entities while each of the lower level entities is in operation, and the step of creating a use index for each of the plurality of entities includes: creating a lower level use index for each of the plurality of lower level entities based upon the collected data; and combining the lower level use indices to provide the use index for the at least one of the plurality of entities (column 2, line 65-column 3, line 13).

55. The method of claim 53, wherein the lower level use index is a performance index indicating the relative performance of the lower level entity (column 6, lines 9-17).

56. The method of claim 53, wherein the lower level use index is a variability index indicating an amount of deviation of a parameter of the lower level entity (column 6, lines 39-51 wherein "error" is recited).

57. The method of claim 53, wherein the lower level use index is a utilization index indicating a degree of exploitation of the lower level entity (column 6, lines 39-51 wherein "odometer" is recited).

58. The method of claim 53, wherein the lower level use index is a health index indicating the health of the lower level entity (column 6, lines 19-26).

59. The method of claim 50, wherein the step of creating a use index comprises creating the use index within a device, wherein the device is one of a field device and field equipment (column 2, lines 30-41).

60. The method of claim 59, further comprising the step of detecting a first condition within the field device, wherein the first condition pertains to the field



device, and wherein creating the use index comprises creating a health index based on the first condition (column 6, lines 19-26).

The limitations of the aforementioned claims are recited in entirety in Pyotsia et al.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 11-14 and 61 rejected under 35 U.S.C. 103(a) as being unpatentable over Pyotsia et al. (USPN 6,317,701 B1).

Claims 11-14 depend from claim 1. Claim 61 depends from claim 50. Claims 1 and 50 have been shown to be anticipated by Pyotsia et al.

Claims 11-14 require the following control related functions:

11. The method of claim 8, wherein the step of executing a decision comprises initiating an automated process.

12. The method of claim 8, wherein the step of executing a decision comprises initiating corrective measures.

13. The method of claim 8, wherein the step of executing a decision comprises optimizing control of the entity.

14. The method of claim 8, wherein the step of executing a decision comprises adjusting a parameter of the entity.

It would have been obvious to one of ordinary skill in the art at the time the invention was made based on Pyotsia et al. column 3, lines 20-39 wherein automatic control is discussed and column 7, lines 15-49 wherein the ability to transfer data to a centralized learning module is described that the Pyotsia et al. system was used to make decisions on various aspects of a controlled process and could have been expanded to adjust parameters of the process based on its ability to communicate to other systems electronically (also described at column 7, lines 15 to 49) depending on the requirements of the application being controlled.

The limitations of claim 61 are as follows:

61. The method of claim 60, further comprising the steps of: detecting a second condition different from the first condition within the field device, wherein the second condition pertains to the field device; and creating a new health index based on the second condition.

It would have been obvious to one of ordinary skill in the art at the time the invention was made that the limitations of claim 61 would be met by a system that repeatedly polls a field device and updates the system information when a new condition is detected. Pyotsia fulfills this requirement at column 5, lines 23-39 wherein it describes the polling method for gathering information from the field devices.

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9. Claims 15-18,63 and 64 rejected under 35 U.S.C. 103(a) as being unpatentable over Pyotsia et al. (USPN 6,317,701 B1) in view of Kunugi (USPN 5,880,716 A).

Claims 15-18 depend from claim 1. Claims 63 and 64 depend from claim 62.

Claims 1 and 62 have been shown to be anticipated by Pyotsia et al.

While Pyotsia et al. does recite a system for controlling industrial field devices based on a calculated index for each device, it does not specifically mention the additional display features required by the previously indicated claims.

Kunugi, analogous to Pyotsia et al. in that both systems are used for the monitoring and control of industrial devices (Kunugi, column 1, lines 5-9), reads on the additional limitations of claims 15-18,63 and 64 as follows:

15. The method of claim 1, further comprising the step of creating a representation of the entity on a display (column 3, lines 15-34).

16. The method of claim 15, further comprising the step of displaying the representation of the entity with the use index on the display (column 12, lines 21-26).

17. The method of claim 1, further comprising the step of displaying a description corresponding to the use index, wherein the description is indicative of the status information regarding the entity (column 8, lines 37-44).

18. The method of claim 17, further comprising the step of analyzing the use index to provide the description (column 8, lines 25-32).

63. The system of claim 62, further comprising a third routine adapted to be executed by the processor which displays a description corresponding to at least

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one use index, wherein the description is indicative of status information regarding one of the plurality of entities (column 8, lines 37-44).

64. The system of claim 63, further comprising a fourth routine adapted to be executed by the processor which analyzes the at least one use index to provide the description (column 8, lines 25-32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the features of Kunugi into the Pyotsia et al. system to have allowed a plant system to be displayed on a screen along with the operating conditions of various plant equipment and devices to have facilitated the monitoring of the operating conditions of the equipment and devices (Kunugi, column 12, lines 28-37).

10. Claims 23-29, 44 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pyotsia et al. (USPN 6,317,701 B1) in view of Bonaquist et al. (USPN 5,329,443 A).

Claims 23-29, 44 and 47 depend from claim 1. Claim 1 has been shown to be anticipated by Pyotsia et al.

While Pyotsia et al. does recite a system for controlling industrial field devices based on a calculated index for each device, it does not specifically mention the additional modeling and calculation features required by the previously indicated claims.

Bonaquist et al., analogous to Pyotsia et al. in that both systems are used for the monitoring and control of process devices (Bonaquist et al., column 1, lines 10-31), reads on the additional limitations of claims 23-29,44 and 47 as follows:

23. The method of claim 1, wherein the use index is a performance index and the step of creating the performance index comprises: modeling the entity based on the collected data to provide one or more estimated parameters of the entity; comparing the one or more measured parameters to a threshold; and producing a performance index value based on the step of comparing (column 3, line 54-column 4, line 14).

24. The method of claim 23, further comprising the step of performing a regression analysis using the one or more measured parameters to determine an unknown parameter associated with the entity (column 9, lines 51-68).

25. The method of claim 23, further comprising the step of modeling the entity based on predetermined data to produce the threshold, wherein the threshold comprises a baseline performance of the entity (column 4, lines 15-35).

26. The method of claim 23, wherein the performance index is an efficiency measurement of the entity (column 1, lines 10-31, wherein efficiency is considered when controlling a device).

27. The method of claim 1, wherein creating a use index comprises predicting the use index from the collected data, wherein the use index represents predicted status information regarding the entity (column 7, lines 36-50).

28. The method of claim 1, wherein the use index is a variability index and the step of creating the variability index comprises: analyzing the collected data to determine a statistical value associated with a parameter of the entity; and comparing the statistical value to a predetermined threshold (column 11, lines 7-25).

29. The method of claim 28, wherein the predetermined threshold is one of an expected amount of variation in the parameter of the entity and a desired amount of variation in the parameter (column 11, lines 34-64).

44. The method of claim 42, wherein the at least one lower level entity includes at least two lower level entities each having an associated lower level model, the method further comprising the steps of: interconnecting the lower level models of the at least two lower level entities to create a model of the entity; and simulating the operation of the entity based on the model of the entity to provide the data pertaining to the operation of the entity (column 3, line 54-column 4, line 14).

47. The method of claim 45, wherein creating a use index comprises creating a use index a first time and creating a use index a second time, the method further comprising the steps of: recognizing a change in the use index between the first and second time; and automatically reporting the change to a centralized database (column 3, line 54-column 4, line 14).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have integrated the methodology of Bonaquist et al. into the Pyotsia system to have improved the closed loop stability of the process under control (Bonaquist et al., column 4, lines 60-68).

11. Claims 30-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pyotsia et al. (USPN 6,317,701 B1) in view of Kraft (USPN 5,528,510 A).

Claims 30-34 depend from claim 1. Claim 1 has been shown to be anticipated by Pyotsia et al.

While Pyotsia et al. does recite a system for controlling industrial field devices based on a calculated index for each device, it does not specifically mention the additional utilization monitoring features required by the previously indicated claims.

Kraft, analogous to Pyotsia et al. in that both systems are used for the monitoring and control of industrial devices (Kraft, column 1, lines 9-12), reads on the additional limitations of claims 15-18, 63 and 64 as follows:

30. The method of claim 1, wherein the use index is a utilization index and the step of creating the utilization index comprises: establishing a predetermined amount of use for the entity; analyzing the collected data to provide an actual amount of use; comparing the actual amount of use to the predetermined amount of use; and producing a utilization index value based on the step of comparing (column 1, line 56 – column 2, line 10).

31. The method of claim 30, wherein the predetermined amount of use is one of a utilization capacity of the entity and a desired utilization of the entity (column 6, lines 25-33).

32. The method of claim 30, wherein the step of creating the use index comprises determining a ratio of the measured use to the predetermined amount of use (column 6, lines 25-33).

33. The method of claim 30, wherein the step of creating the use index comprises determining the difference between the measured use and the predetermined amount of use (column 5, lines 17-34).

34. The method of claim 30, wherein the step of creating the use index comprises determining a percentage of the predetermined amount of use (column 6, lines 25-33).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the features of Kraft into the Pyotsia et al. system to have provided an accurate method for tracking both machine utilization and process performance (Kraft, column 1, line 56-column 2, line 4).

12. Claims 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pyotsia et al. (USPN 6,317,701 B1) in view of Campbell et al. (USPN 6,567,718 B1).

Claims 35-37 depend from claim 1. Claim 1 has been shown to be anticipated by Pyotsia et al.

While Pyotsia et al. does recite a system for controlling industrial field devices based on a calculated index for each device, it does not specifically mention the additional life cycle monitoring features required by the previously indicated claims.



Campbell et al., analogous to Pyotsia et al. in that both systems are used for the monitoring and control of industrial devices (Campbell et al., column 1, lines 8-11), reads on the additional limitations of claims 35-37 as follows:

35. The method of claim 1, wherein the use index is a health index and the step of creating a health index comprises: establishing a predetermined life cycle for the entity; determining the entity's current status within the predetermined life cycle based on the collected data; and producing a health index value indicative of the entity's current status based on the step of determining (column 5, lines 33-60).

36. The method of claim 35, wherein the predetermined life cycle is based on at least one of a historical usage of the entity, an expected usage of the entity, an expected environmental impact on the entity, and a predetermined passage of time (column 5, lines 33-60).

37. The method of claim 35, wherein the collected data is at least one of actual usage of the entity, actual environmental impacts on the entity, a current detected state of the entity and a quality of operation of the entity (column 4, lines 11-31).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the features of Campbell et al. into the Pyotsia et al. system to have improved both the tool level performance and the line level performance (Campbell et al., column 6, lines 52-60).

13. Claims 65-71, 73 and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pyotsia et al. (USPN 6,317,701 B1) in view of Miyagaki et al. (USPN 4,942,514).

Claims 65-71, 73 and 74 depend from claim 62. Claim 62 has been shown to be anticipated by Pyotsia et al. Claims 67-72 have the same functional limitations as claims 19-22, 43 and 18 respectively. Therefore, claims 67-72 are rejected as being obvious in view of the same citations in Pyotsia et al.

While Pyotsia et al. does recite a system for controlling industrial field devices based on a calculated index for each device, it does not specifically mention the additional hierarchical display features required by claims 65, 66, 73 and 74 as follows:

65. The system of claim 62, further comprising: a third routine adapted to be executed by the processor which combines the use indices of the representations in the set to provide a higher level use index for a higher level entity; and a fourth routine adapted to be executed by the processor which displays a representation of the higher level entity and which displays the higher level use index displayed proximately to the higher level entity.

66. The system of claim 65, wherein the representation of the higher level entity comprises the display of the set of the representations.

Miyagaki et al., analogous to Pyotsia et al. in that both systems are used for the monitoring and control of process plant and industrial devices (Miyagaki et al., column 1, lines 6-11), reads on the additional limitations of aforementioned claims in

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figures 1A and 1B and column 3, lines 35-68 wherein an plant control system display with hierarchical overview features is described.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the elements of Miyagaki into the Pyotsia et al. system to have provided an operator interface system that is both safe and easy to operate which in turn would display the content of operation or control data at a control device and the operating condition of the control device displayed in combination in a manner so as not to hide the control device on a display screen important for operation (Miyagaki et al., column 1, lines 54-64).

14. Claim 72 rejected under 35 U.S.C. 103(a) as being unpatentable over Pyotsia et al. (USPN 6,317,701 B1) in view of Miyagaki et al. (USPN 4,942,514) as applied to claim 71 above, and further in view of Kunugi (USPN 5,880,716 A).

Claim 72 depends from claim 71. Claim 71 has been shown to be obvious in view of the combination of Pyotsia et al. and Miyagaki et al.

The previously indicated combination does not specifically read on the limitations of claim 72 as follows:

72. The system of claim 71, further comprising a sixth routine adapted to be executed by the processor which performs a data analysis of the higher level use index to provide the description.

Kunugi, analogous to the combined references in that all of the systems are used for the monitoring and control of industrial devices (Kunugi, column 1, lines 5-9),

reads on the additional limitations of claim 72 at column 8, lines 25-32 wherein the system collates the operating conditions of the devices and displays them on an operator interface screen.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the features of Kunugi into the combined Pyotsia et al. and Miyagaki et al. system to have allowed a plant system to be displayed on a screen along with the operating conditions of various plant equipment and devices to have facilitated the monitoring of the operating conditions of the equipment and devices (Kunugi, column 12, lines 28-37).

15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

***Allowable Subject Matter***

16. Claims 39-41, 52 and 53 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Specifically, all of the above claims include assigning a lower level index value to subordinate devices and creating an overall index by assigning a weighting value to each of the lower level entities which is used to create a weighted average and weighted combination of all of the lower level entities.

The most relevant prior art of record is Pyotsia et al. Pyotsia et al. reads on the combination of subordinate device level index values in process monitoring, but does not recite weighting these indexes in order to derive a plant level index. No other prior art of record, alone or in combination with Pyotsia et al., make obvious this feature.

***Conclusion***

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

USPN 4,922,412 – Lane et al. – Control system

USPN 5,089,978 A – Lipner et al. – Process monitoring system

USPN 5,796,606 A – Spring – Process monitoring system

USPN 5,859,885 A – Rusnica et al. – Process monitoring system

USPN 6,185,470 B1 – Pado et al. – Control system

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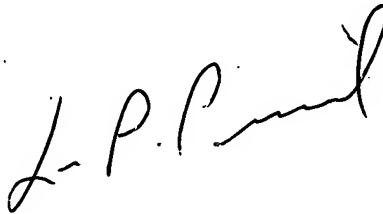
USPN 6,246,972 B1 – Kilmasauskas – Process monitoring system

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elliot L Frank whose telephone number is (703) 305-5442. The examiner can normally be reached on M-F 7-4:30, 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P Picard can be reached on (703) 308-0538. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-5484.

ELF  
October 17, 2003



**LEO PICARD**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2100**